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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/590,521

08/24/2006

Satoshi Takano

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WASHINGTON, DC 20006-1021

EXAMINER

GHYKA, ALEXANDER G

ART UNIT

PAPER NUMBER

2812

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04/30/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/590,521	<b>Applicant(s)</b> TAKANO, SATOSHI	
	<b>Examiner</b> ALEXANDER G. GHYKA	<b>Art Unit</b> 2812	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 February 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 11-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 11-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

Applicants' response of 2/04/2008 has been considered and entered in the record. Claims 9-10 and 15-16 are cancelled. Claims 1-8 and 11-14 are now under consideration. In the previous Office action Claim 9 was rejected on form PTOL-326, line 6 and in the header rejecting Claim 8, on page 5 of the Office action. Moreover, the optimization of the retraction time was discussed in the last two paragraphs of page 4 and the first paragraph of page 5. However, as Claim 9 was inadvertently omitted from the header on page 4 (Claims 2-6 and 10-16 were rejected), the present Office action will be a NON-FINAL rejection. The following new rejections are made in view of Applicants' amendments.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**Claims 1-7 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugimoto et al (US 2004/0005149).**

Sugimoto et al disclose a substrate treating apparatus and method, the substrate transfer paths defining a going-only path for transporting the substrates forward, and a return only path for transporting the substrates in the opposite direction, the going only path and return only path being arranged on the upper and lower stories. See the Abstract. Sugimoto et al disclose a substrate processing apparatus (figure 2 and corresponding text) characterized by being equipped with a conveyor chamber constituting a substrate convey space (cassette shown in Figures 3 and 4, and discussed in paragraph 200); a plurality of process chambers that carry out substrate processing; a substrate convey apparatus provided in said conveyor chamber having a function of conveying substrates and a control section that controls convey processing of substrates by the convey apparatus(pages 11-12, paragraphs 202-204) , so that in a case in which after a substrate is continuously processed by two or more process chambers, the process is reconveyed from the last process chamber to any of the two or more process chambers other than the last and return process implemented, in the re-conveyance the substrate is reconveyed to said any of the process chambers after being temporarily retracted to a place other than a process chamber( see figure 20, where substrates are transferred to a substrate rest, between treatment steps). With respect to Claim 7, the substrate rest chamber would be connected to the conveyor during the transfer.

Sugimoto et al differs from the afore mentioned Claims in that Sugimoto et al does not disclose the reaction conditions and the retraction time as required by the afore mentioned Claims, and more specifically wherein in a case in which the substrate process time in each of said two or more process chambers is equal, taking  $n$  as the number of process chambers subject to return processing and  $T$  as substrate convey time between processing chambers, the retraction time used by the control section is  $((n-1) T)$ .

It would have been obvious for one of ordinary skill in the art, at the time of the invention, to arrive at the reaction conditions and retraction time, as required by the afore mentioned Claims, as where the general conditions of a claim are disclosed in the

prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. See *Allen et al v. Coe*, 57 USPQ 136. Moreover, the discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art. See *In re Antonie*, 195 USPQ 6, (CCPA 1977) and *In re Aller*, 105 USPQ 233 (1955). In the present case the selection of the reaction conditions and retraction time would be within the skill of one of ordinary skill in the art, for its benefit in optimizing the treatment of the substrates. Moreover, the Examiner notes that the phrase “in a case in which the substrate time in each of said two or more process chambers is equal” is an alternative option, and not a limitation which is required by the present Claims. With respect to Claim 14, the use of the apparatus of Claim 1, anticipates the method of Claim 14.

**Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sugimoto et al as applied to claims 1-7 and 11-14 above, and further in view of Maydan et al (EP 0 272 141).**

Sugimoto et al is relied upon as discussed above.

However, Sugimoto et al does not disclose a substrate processing apparatus characterized in that the place other than a process chamber to which the substrate is retracted is in a load lock chamber connected to the conveyor chamber.

Maydan et al disclose a multiple chamber integrated process system. Maydan et al disclose a load lock (12), which includes an external cassette elevator (24) and an internal load lock wafer elevator (50), and also includes stations on the periphery of the

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load lock for connecting several vacuum processors (16-22) to the load lock chamber (12). See the Figure 1 and column 5, lines 15-55.

It would have been obvious for one of ordinary skill in the art, at the time of the invention, to use the load lock chamber of Maydan et al, in the process of Sugimoto, for its benefit in holding the wafers between processing chambers. As both references are drawn to wafer treating apparatus, the use of a known device, as disclosed by Maydan et al, for its known utility, holding wafers between their insertion in various processing chambers, would have been obvious to one of ordinary skill in the art.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander G. Ghyka whose telephone number is (571) 272-1669. The examiner can normally be reached on Monday through Friday during general business hours.

If attempts to reach the examiner by telephone are unsuccessful, please contact the examiner's acting supervisors Walter Lindsay, Jr (571) 272-1674 or Scott Geyer (571) 272-1674. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

April 25, 2008

AGG

**ALEXANDER G. GHYKA**

**PRIMARY EXAMINER AU 2812**

**/Alexander G. Ghyka/**